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Form PTO-1449 (Modified)	Department of Commerce Patent and Trademark Office	Atty. Docket No. 27866/39701	Serial No. 10/697,894
INFORMATION DISCLOSURE STATEMENT		Applicant Beavo et al.	
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U.S. PATENT DOCUMENTS							
*Examiner Initials		Document Number	Issue Date	Name	Class	Subclass	Filing Date if Appropriate

FOREIGN PATENT DOCUMENTS							
*Examiner Initials		Document Number	Publication Date	Country	Class	Subclass	Translation
							Yes No

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)		
88	C1	Ausubel, et al., eds., <i>Current Protocols in Molecular Biology</i> , 1: 1.7.1-1.7.2 and 9.2.1-9.2.3, John Wiley & Sons, New York (1989)
	C2	Beavo, J.A., "Multiple Isozymes of Cyclic Nucleotide Phosphodiesterase," <i>Advances in Second Messenger and Phosphoprotein Research</i> , 22: 1-38 (1988)
	C3	Beavo, J.A., "Multiple Phosphodiesterase Isoenzymes Background, Nomenclature and Implications", pages 3-15; <i>Cyclic Nucleotide Phosphodiesterases: Structure, Regulation and Drug Action</i> , J. Beavo and Houslay, M.D., Eds.; John Wiley & Sons, Ltd., New York (1990)
	C4	Birnstiel, M.L., et al., "Transcription Termination and 3' Processing: The End Is in Sight!", <i>Cell</i> , 41: 349-359 (1985)
	C5	Bourne, H.R., et al., "Somatic Genetic Analysis of Cyclic AMP Action: Characterization of Unresponsive Mutants," <i>J. Cell. Physiol.</i> , 85: 611-620 (1985)
	C6	Bradford, M.M., "A Rapid and Sensitive Method for the Quantitation of Microgram Quantities of Protein Utilizing the Principle of Protein-Dye Binding," <i>Analytical Biochem.</i> , 72: 248-254 (1976)
	C7	Chen, C-N., et al., "Molecular Analysis of cDNA Clones and the Corresponding Genomic Coding Sequences of the <i>Drosophila dunce</i> ⁺ Gene, the Structural Gene for cAMP Phosphodiesterase," <i>Proc. Nat'l. Acad. Sci. (USA)</i> , 83: 9313-9317 (1986)
	C8	Chomczynski, P., et al., "Single-Step Method of RNA Isolation by Acid Guanidinium Thiocyanate-Phenol-Chloroform Extraction," <i>Analytical Biochem.</i> , 162: 156-159 (1987)
	C9	Colicelli, J., et al., "Isolation and Characterization of a Mammalian Gene Encoding a High-Affinity cAMP Phosphodiesterase," <i>Proc. Nat'l. Acad. Sci. (USA)</i> , 86: 3599-3603 (1989)
	C10	Davis, R.L., "Molecular Genetics of the Cyclic Nucleotide Phosphodiesterases", pages 227-241 in <i>Cyclic Nucleotide Phosphodiesterases: Structure, Regulation and Drug Action</i> , J. Beavo and Houslay, M.D., Eds.; John Wiley & Sons, Ltd., New York (1990)
✓	C11	Davis, R.L., et al., "Cloning and Characterization of Mammalian Homologs of the <i>Drosophila dunce</i> ⁺ Gene," <i>Proc. Nat'l. Acad. Sci. (USA)</i> , 86: 3604-3608 (1989)
88	C12	Devereux, J., et al., "A Comprehensive Set of Sequence Analysis Programs for the

E. Slobodyarsky

4/27/06

40		VAX," <i>Nucleic Acids Res.</i> , 12: 387-395 (1984)
82	C13	Erneux, C., <i>et al.</i> , "A Mechanism in the Control of Intracellular cAMP Level: The Activation of a Calmodulin-Sensitive Phosphodiesterase by a Rise of Intracellular Free Calcium," <i>Mol. Cell. Endocrinal.</i> , 43: 123-134 (1985)
	C14	Faure, M., <i>et al.</i> , "Disruption of <i>Dictyostelium discoideum</i> Morphogenesis by Overproduction of cAMP Phosphodiesterase," <i>Proc. Nat'l. Acad. Sci. (USA)</i> , 85: 8076-8080 (1988)
	C15	Feinberg, A.P., <i>et al.</i> , "A Technique for Radiolabeling DNA Restriction Endonuclease Fragments to High Specific Activity," <i>Analytical Biochem.</i> , 137: 266-267 (1984)
	C16	Greenberg, L.H., <i>et al.</i> , "Enzymatic Regulation of the Concentration of Cyclic GMP in Mouse Brain," <i>Neuropharmacology</i> , 17: 737-745 (1978)
	C17	Hansen, R.S., <i>et al.</i> , "Differential Recognition of Calmodulin-Enzyme Complexes by a Conformation-Specific Anti-Calmodulin Monoclonal Antibody," <i>J. Biol. Chem.</i> , 261: 14636-14645 (1986)
	C18	Hansen, R.S., <i>et al.</i> , "Purification of Calmodulin-Stimulated Cyclic Nucleotide Phosphodiesterase by Monoclonal Antibody Affinity Chromatography," <i>Meth. Enzymol.</i> , 159: 543-557 (1988)
	C19	Hansen, R.S., <i>et al.</i> , "Purification of Two Calcium/Calmodulin-Dependent Forms of Cyclic Nucleotide Phosphodiesterase by Using Conformation-Specific Monoclonal antibody Chromatography," <i>Proc. Nat'l. Acad. Sci. (USA)</i> , 79: 2788-2792 (1982)
	C20	Hashimoto, Y., <i>et al.</i> , "Regulation of Ca^{2+} /Calmodulin-Dependent Cyclic Nucleotide Phosphodiesterase by the Autophosphorylated Form of Ca^{2+} /Calmodulin-Dependent Protein Kinase II," <i>J. Biol. Chem.</i> , 264: 10884-10887 (1989)
	C21	Henikoff, S., "Unidirectional Digestion with Exonuclease III Creates Targeted Breakpoints for DNA Sequencing," <i>Gene</i> , 28: 351-359 (1984)
	C22	Kincaid, R.L., <i>et al.</i> , "Differential Localization of Calmodulin-Dependent Enzymes in Rat Brain: Evidence for Selective Expression of Cyclic Nucleotide Phosphodiesterase in Specific Neurons," <i>Proc. Nat'l. Acad. Sci. (USA)</i> , 84: 1118-1122 (1987)
	C23	Kozak, M., "The Scanning Model for Translation: An Update," <i>J. Cell Biol.</i> , 108: 229-241 (1989)
	C24	Krinks, M.H., <i>et al.</i> , "Reversible and Irreversible Activation of Cyclic Nucleotide Phosphodiesterase: Separation of the Regulatory and Catalytic Domains by Limited Proteolysis," <i>Advances in Cyclic Nucleotide and Protein Phosphorylation Research</i> , 16: 31-47 (1984)
	C25	LaPorte, D.C., <i>et al.</i> , "Cross-Linking of Iodine-125-Labeled, Calcium-Dependent Regulatory Protein to the Ca^{2+} -Sensitive Phosphodiesterase Purified from Bovine Heart," <i>Biochemistry</i> , 18: 2820-2825 (1979)
	C26	LeTrong, H., <i>et al.</i> , "Amino Acid Sequence of the Cyclic GMP Stimulated Cyclic Nucleotide Phosphodiesterase from Bovine Heart," <i>Biochemistry</i> , 29: 10280-10288 (1990)
	C27	Livi, G.P., <i>et al.</i> , "Cloning and Expression of cDNA for a Human Low- K_m Rolipram-Sensitive Cyclic AMP Phosphodiesterase," <i>Mol. Cell. Biol.</i> , 10: 2678-2686 (1990)
82	C28	Manganiello, V.C., <i>et al.</i> , "Cyclic GMP-Stimulated Cyclic Nucleotide Phosphodiesterases", pages 62-85 in <i>Cyclic Nucleotide Phosphodiesterases: Structure, Regulation and Drug Action</i> , Beavo, J. and Houslay, M.D., Eds.; John Wiley & Sons, Ltd., New York (1990)
28	C29	Maniatis, <i>et al.</i> , <i>Molecular Cloning: A Laboratory Manual</i> , pp 324-328, Cold Spring

E. Shbody


4/27/06

CD		Harbor Laboratory, Cold Spring Harbor, New York (1982)
E	C30	Martins, T.J., <i>et al.</i> , "Purification and Characterization of a Cyclic GMP-Stimulated Cyclic Nucleotide Phosphodiesterase from Bovine Tissues," <i>J. Biol. Chem.</i> , 257: 1973-1979 (1982)
	C31	Nikawa, J-I., <i>et al.</i> , "Cloning and Characterization of the Low-Affinity Cyclic AMP Phosphodiesterase Gene of <i>Saccharomyces cerevisiae</i> ," <i>Mol. Cell. Biol.</i> , 7: 3629-3636 (1987)
	C32	Nomenclature Committee of the International Union of Biochemistry (NCIUB), "Nomenclature for Incompletely Specified Bases in Nucleic Acid Sequences," <i>J. Biol. Chem.</i> , 261:13-17 (1986)
	C33	Novack, J.P., <i>et al.</i> , "Sequence Comparison of the 63-, 61-, and 59-kDa Calmodulin-Dependent Cyclic Nucleotide Phosphodiesterases," <i>Biochemistry</i> , 30: 7940-7947 (1991)
	C34	Ovchinnikov, Y.A., <i>et al.</i> , "Cyclic GMP Phosphodiesterase from Bovine Retina," <i>FEBS</i> , 223: 169-173 (1987)
	C35	Sanger, F., <i>et al.</i> , "DNA Sequencing with Chain-Terminating Inhibitors," <i>Proc. Nat'l. Acad. Sci. (USA)</i> , 74: 5463-5467 (1977)
	C36	Sass, P., <i>et al.</i> , "Cloning and Characterization of the High-Affinity cAMP Phosphodiesterase of <i>Saccharomyces cerevisiae</i> ," <i>Proc. Nat'l. Acad. Sci. (USA)</i> , 83: 9303-9307 (1986)
	C37	Seed, B., "An LFA-3 cDNA encodes a Phospholipid-Linked Membrane Protein Homologous to Its Receptor CD2," <i>Nature</i> , 329: 840-842 (1987)
	C38	Sharma, R.K., <i>et al.</i> , "Demonstration of Bovine Brain Calmodulin-Dependent Cyclic Nucleotide Phosphodiesterase Isozymes by Monoclonal Antibodies," <i>J. Biol. Chem.</i> , 259: 9248-9254 (1984)
	C39	Sharma, R.K., <i>et al.</i> , "Differential Regulation of Bovine Brain Calmodulin-Dependent Cyclic Nucleotide Phosphodiesterase Isozymes by Cyclic AMP-Dependent Protein Kinase and Calmodulin-Dependent Phosphatase," <i>Proc. Nat'l. Acad. Sci. (USA)</i> , 82: 2603-2607 (1985)
	C40	Sharma, R.K., <i>et al.</i> , "Purification and Characterization of Bovine Lung Calmodulin-Dependent Cyclic Nucleotide Phosphodiesterase," <i>J. Biol. Chem.</i> , 261: 14160-14166 (1986)
	C41	Sherman, <i>et al.</i> , <i>Methods in Yeast Genetics</i> , Cold Spring Harbor Laboratory, Cold Spring Harbor, New York (1986)
	C42	Short, M., <i>et al.</i> , "ZAP: A Bacteriophage λ Expression Vector with <i>in vivo</i> Excision Properties," <i>Nucleic Acids Res.</i> , 16: 7583-7600 (1988)
	C43	Sonnenburg, W.K., <i>et al.</i> , "Molecular Cloning of a Cyclic GMP-Stimulated Cyclic Nucleotide Phosphodiesterase cDNA," <i>J. Biol. Chem.</i> , 266(26): 17655-17661 (1991)
	C44	Stroop, S.D., <i>et al.</i> , "Direct Photolabeling of the cGMP-Stimulated Cyclic Nucleotide Phosphodiesterase," <i>J. Biol. Chem.</i> , 264: 13718-13725 (1989)
	C45	Swinnen, J.V., <i>et al.</i> , "Molecular Cloning of Rat Homologous of the <i>Drosophila melanogaster</i> dunce cAMP Phosphodiesterase: Evidence for a Family of Genes," <i>Proc. Nat'l. Acad. Sci. (USA)</i> , 86: 5325-5329 (1989)
	C46	Tanner, L.I., <i>et al.</i> , "Identification of the Phosphodiesterase Regulated by Muscarinic Cholinergic Receptors of the 1321N1 Human Astrocytoma Cells," <i>Mol. Pharmacol.</i> , 29: 455-460 (1986)
E	C47	Thompson, W.J., <i>et al.</i> , "Identification of Type II (Cyclic GMP-Stimulatable) Cyclic Nucleotide Phosphodiesterase (CNPDE) mRNA in Rat Pheochromocytoma Cells (PC12)," <i>FASEB J.</i> , 5(6): A1592 (Abstract No. 7092) (March 1991)

E. Soley

4/27/06

Σ	C48	Wang, J.H., <i>et al.</i> , "Calmodulin-Stimulated Cyclic Nucleotide Phosphodiesterases", pp. 19-59; in <i>Cyclic Nucleotide Phosphodiesterases: Structure, Regulation and Drug Action</i> , Beavo, J. and Houslay, M.D., Eds.; John Wiley & Sons, Ltd., New York (1990)
	C49	Watson, <i>et al.</i> , "An Alternative Procedure for the Synthesis of Double-Stranded cDNA for Cloning in Phage and Plasmid Vectors," pp. 79-88; in <i>DNA Cloning: A Practical Approach</i> , 1 (1985)
	C50	Wilson, R.B., <i>et al.</i> , "SRA5 Encodes the Low-K _M Cyclic AMP Phosphodiesterase of <i>Saccharomyces cerevisiae</i> ," <i>Mol. Cell. Biol.</i> , 8: 505-510 (1988)
	C51	Charbonneau, H., <i>et al.</i> , "Identification of a conserved domain among cyclic nucleotide phosphodiesterases from diverse species," <i>Proc. Nat'l. Acad. Sci. (USA)</i> , 83: 9308-9312 (1986)
	C52	Trong, H. L., <i>et al.</i> , "Amino Acid Sequence of the Cyclic GMP Stimulated Cyclic Nucleotide Phosphodiesterase from Bovine Heart," <i>Biochemistry</i> 1990, 29: 10280-10288
	C53	Epstein, P.M. <i>et al.</i> , "Identification and characterization of a Ca ²⁺ -calmodulin-sensitive cyclic nucleotide phosphodiesterase in a human lymphoblastoid cell line," <i>Biochem. J.</i> , 243:533-539 (1987).
	C54	Pennypacker, K.R. <i>et al.</i> , "Expression of Calmodulin-Dependent Phosphodiesterase Calmodulin-Dependent Protein Phosphatase, and Other Calmodulin-Binding Proteins in Human SMS-KCNR Neuroblastoma Cells," <i>Journal of Neurochemistry</i> , 52(5):1438-1448 (1989).
✓	C55	Hurwitz, R.L. <i>et al.</i> "Induction of a Calcium/Calmodulin-dependent Phosphodiesterase during Phytohemagglutinin-stimulated Lymphocyte Mitogenesis", <i>J. Biol. Chem.</i> , 265(15):8901-8907 (1990).
Σ	C56	Lerner, Richard L. "Tapping the immunological repertoire to produce antibodies of predetermined specificity", <i>Nature</i> 299(14) 592-596 (1987)

Examiner 	Date Considered 4/27/06
<p>*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>	